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ABSTRACT

This study used existing databases to analyze, from a national perspective, the turnover of special education teachers (SETs) at the district level due to district migration, teaching field transfer, and exit attrition. The study also investigated district retention of SETs as a function of district location and teacher experience. The study used data from the 1987-88 and 1990-91 Schools and Staffing Survey (SASS) and the 1990-91 and 1991-92 Teacher Followup Survey (TFS). Major conclusions of the study include: (1) retention of SETs in specific assignments from one year to the next was significantly less than the retention of general education teachers (GETs); (2) the difference between SET and GET retention was due to the higher rate of transfer of SETs to general education; (3) approximately the same percentage of SETs and GETs retained in the same teaching field transferred to different public schools, with the majority remaining in the district; (4) district attrition was higher for SETs (13 percent) than for GETs (9 percent), mostly due to teaching field transfer; (5) there was no significant difference in district retention versus district attrition as a function of community type; and (6) district retention for both SETs and GETs increased substantially with teaching experience. (CR)

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RETENTION AND ATTRITION OF TEACHERS AT THE DISTRICT LEVEL: NATIONAL TRENDS IN SPECIAL AND GENERAL EDUCATION[1]

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EXECUTIVE SUMMARY

There has long been concern about securing and retaining a fully-qualified teaching force in special education, partly due to reports of inadequate retention of special education teachers (SETs) from year-to-year that creates a large annual demand for new hires of teachers to fill open positions (i.e., annual teacher turnover). Two factors commonly regarded as responsible for this turnover in the teaching force nationally are a relatively high rate of SETs who leave the teaching profession as compared with general education teachers (GETs) (i.e., exit attrition), and a relatively high rate of SETs who transfer to general education as compared with the transfer of GETs to special eduction (i.e., teaching field transfer).

Exit attrition and teaching field transfer produce teacher turnover at the school district, state, and national levels--thereby adversely affecting the overall stability of the teaching force. Both of these phenomena in special education have been thought to be more pronounced in large urban school districts. In addition, a third factor is suspected of producing high annual turnover of SETs at the district level, namely, high rates of migration of SETs out of large urban school districts into other types of districts (i.e., district migration). In response to the concern that teacher turnover is highest in large urban school districts, the Office of Special Education Programs, USDE, funded three urban projects in 1991 to focus on turnover of SETs at the district level due to district migration, teaching field transfer, and exit attrition. The combination of these three components of teacher turnover at the school district level is termed "district attrition," while "district retention" is used to refer to teachers who remain in their teaching field and school district.

Until recently, it has not been possible to quantify the extent to which the three factors involved in teacher turnover contribute to the high annual demand for new hires in the field of special education nationwide because data have not been available. That has changed in recent years as information has become available from the Schools and Staffing Survey (SASS) and its longitudinal companion, the Teacher Followup Survey (TFS) of the National Center for Education Statistics (NCES), USDE. By using these data sources, the research reported here represents the first national analysis of district attrition (and its three components of district migration, teaching field transfer, and exit attrition) and district retention of SETs, in comparison with GETs, as a function of district location (i.e., urban, suburban, etc.) and teacher experience.

The main findings of the study reported here pertain to two main groups of public school teachers: those who remained in their teaching positions from one school year to the next, and those who left. The findings were based on analyses of data from the two large independent samples of teachers included in the 1987-88 and 1990-91 SASSs, and their respective 1988-89 and 1991-92 TFSs. For simplicity, only findings from the 1990-91 SASS and 1991-92 TFS are reported in the summary table below, although the full report provides the results from both survey periods. The results of this study represent the best available estimates based on national probability samples of teachers and should therefore be interpreted as such.

1. District Retention and District Attrition of Public School Teachers: The percentages of SETs and GETs in 1990-90 who remain in, and who leave, their specific teaching assignments for 1991-92 were as follows:

	Percentages of Employed Teachers in 1990-91	
Teacher Status in 1991-92	Special Education	General Education
A. District Retention	87%	91%
B. District Attrition		
1. Teaching Field Transfer	5%	0.4%
2. District Migration	2%	3%
3. Exit Attrition	6%	6%
Subtotal: District Attrition	13%	9%
TOTAL EMPLOYED TEACHERS: Percentage	100%	100%
Number	288,000	2,254,000

These findings are the first to show that the main difference between special and general education in district attrition was the significantly greater annual transfer of teachers from special education to general education (5%) than vice versa (0.4%), while general and special education teachers were comparable in the percentages who moved to schools in other districts (about 2-3%) and who left public school teaching (about 6%). While the relative percentages of cross-field transfer between special and general education are helpful in understanding annual turnover in the teaching force in special education, another important perspective on teaching field transfer is the actual numbers of teachers involved (15,000 SETs transferred to general education, while 9,000 GETs transferred to special education, from the 1990-91 to the 1991-92 school years). Thus, the net annual loss of SETs to general education (6,000) is not nearly as great as the relative

transfer percentages imply. In addition, the district attrition percentage reported above for general education in 1990-91 (9%) was the same as that for 1987-88. However, for special education, district attrition was much higher following the 1987-88 school year (22%) than following the 1990-91 school year (13%).

2. Relationship Between District Attrition and Community Type. District attrition was studied as a function of four types of communities in which districts were located (central city, suburban/large town, small town, and rural communities). Contrary to impressions in the field that attrition of teachers has been especially high from central city districts, the national data demonstrated that district attrition was not associated with community type for either special or general education teachers following either the 1987-88 or 1990-91 school years. Thus, the magnitude of district retention problems faced by large urban districts has been no greater in the nation as a whole than that faced by rural, small town, or suburban districts.

3. Relationship Between District Attrition and Years of Teaching Experience. District attrition was also studied as a function of years of teaching experience (1 - 3, 4 - 10, and 11 or more years of teaching experience). The findings revealed that district attrition declined systematically as teaching experience increased. This result was observed for both SETs and GETs following both the 1987-88 and 1990-91 school years. For the 1990-91, 28% of SETs with 1 - 3 years of experience left their teaching assignment at the end of the year, while only 7% of SETs with more than 10 years experience did so. For GETs, the comparable percentages were 18% versus 4%. Thus, the longer a teacher remains in his/her assignment, the more likely it becomes that he/she will so remain in future years. Thus, the challenge to the teaching profession is first to place, and then to induct, beginning teachers into teaching assignments for which they are qualified so as to enhance their success and interest in continuing as teachers.

Since the main findings of this study were replicated over a three-year period (teacher turnover following the 1987-88 and the 1990-91 school years) with independent national probability samples, there is substantial evidence of stability in the phenomena investigated. The level of district attrition of SETs in the nation as a whole following the 1990-91 school year (13%) was actually higher than that found in the six urban areas reported by Pyecha and Levine, 1995, May). In these urban areas, the annual district attrition of SETs ranged from 7 - 13%, with a mean of 9%--matching the level of district attrition for GETs (9%) found here for the nation as a whole. The reason for the discrepancy between the national and local district attrition data for SETs is not readily apparent because the urban projects did not report information specifically on the three components of district attrition (i.e., teaching field transfer, migration to out-of-district schools, and exit attrition). Nonetheless, the six specific districts selected for study in the urban projects appear to have achieved a level of stability in their teaching forces in special education that is not characteristic of urban districts generally.

INTRODUCTION

There has long been concern about securing and retaining a fully-qualified teaching force in special education (Carriker, 1989; Hales & Carlson, 1992; National Clearinghouse on Professions in Special Education, 1992). This concern has been fueled by reports of inadequate retention of special education teachers (SETs) from year-to-year that creates a large annual demand for new hires of teachers to fill open positions (i.e., annual teacher turnover). Two factors commonly regarded as responsible for this turnover in the teaching force nationally are a relatively high rate of SETs who leave the teaching profession as compared with general education teachers (GETs) (i.e., exit attrition), and a relatively high rate of SETs who transfer to general education compared with the transfer of GETs to special eduction (i.e., teaching field transfer).

Exit attrition and teaching field transfer produce teacher turnover at the school district, state, and national levels--thereby adversely affecting the overall stability of the teaching force. Both of these phenomena in special education have been thought to be more pronounced in large urban school districts. In addition, a third factor is suspected of producing high annual turnover of SETs at the district level, namely, high rates of migration of SETs out of large urban school districts to other types of districts (i.e., district migration). In response to the concern that teacher turnover is highest in large urban school districts, the Division of Innovation and Development, Office of Special Education Programs of the U.S. Department of Education, funded three urban projects under a "Priority" focusing on teacher retention and attrition in large urban districts (Priority IV, 1990, September 25). Reports of the findings and actions of these three projects were presented at a **National Dissemination Forum on Issues Relating to Special Education Teacher Satisfaction, Retention and Attrition** (Washington, DC: May 25-26, 1995) sponsored by the Office of Special Education Programs, USDE. These projects focused on turnover of SETs at the district level due to district migration, teaching field transfer, and exit attrition. As used here and in the three urban projects referred to above, the combination of these three components of teacher turnover at the school district level is termed "district attrition," while the collection of teachers who remain in their teaching field and school district is termed "district retention."

Until recently, it has not been possible to quantify the extent to which the three factors involved in teacher turnover contribute to the high annual demand for new hires in the field of special education nationwide because national data have not been available. That has

changed in recent years as information has become available from two surveys of the National Center for Education Statistics (NCES) of the U.S. Department of Education: the Schools and Staffing Survey (SASS) and its longitudinal companion, the Teacher Followup Survey (TFS). By using these data sources, the research reported here analyzed, from a national perspective, the district attrition (i.e., district migration, teaching field transfer, and exit attrition) and the district retention of SETs in comparison with GETs in school districts located in large urban areas, as well as in other areas. The results of these analyses provide national benchmarks about the extent of teacher turnover at the district level.

The study of teacher turnover at the school district level has been virtually neglected during the past few decades. Research has not been reported on turnover for particular districts, urban or otherwise, with the exception of one study that investigated the attrition of teachers from all public school districts in the State of Washington (Theobald, 1990). Theobald (1990) found that 92% of all teachers remained each year in the same district during the period 1984-1987, while the remaining 8% either transferred to a different district or left public school teaching. Specific data for SETs were not reported, nor was information about teaching field transfer reported. In view of the absence of information about the retention and turnover of SETs at the district level, results of the national-level research reported here should assist policy makers and administrators in designing more effective intervention strategies to reduce the annual turnover of SETs.

METHOD

Data Sources

The research reported here is based on national data bases (SASS for 1987-88 and for 1990-91, and TFS for 1988-89 and for 1991-92) that include extensive information on public school teachers and on the public schools in which these teachers were employed. These data bases were derived from large independent national-probability samples with high response rates (see Table 1). Therefore, SASS provides nationally representative estimates of the numbers and attributes of teachers in 1987-88 and 1990-91, while TFS, a longitudinal companion of SASS, likewise provides nationally representative estimates about position changes made by teachers from 1987-88 to 1988-89 and from 1990-91 to 1991-92. Using these data bases, it is possible to identify, from one year to the next, changes in teacher employment status in considerable detail (e.g., teaching field transfer, district migration, exit attrition).

Table 1

Description of the Schools and Staffing Surveys (SASS) and the Teacher Followup Surveys (TFS) in the Public Sector for Years 1987-89 and 1990-92

	Available Sample Sizes and Weighted Response Percentages			
	1987-89 SASS/TFS		1990-92 SASS/TFS	
Public Sector Questionnaire	Sample Size[a]	Response Percentage	Sample Size[a]	Response Percentage
Schools and Staffing Survey				
1. Public School	8,326	(94%)	8,969	(95%)
2. Public School Teachers	40,593	(86%)	46,705	(91%)
Teacher Followup Survey				
1. Current Teachers (Continuing)	3,259	(98%)	3,302	(97%)
2. Former Teachers (Leavers)	1,553	(94%)	1,459	(92%)

Note. Data from the National Center for Education Statistics, USDE. Copies of the SASS and TFS questionnaires are available from NCES.

[a] Data from the SASS and TFS electronic databases.

Evidence of the reliability of SASS and TFS data comes from two sources. First, standard errors associated with the various percentages of teachers, as reported in the tables of results included in the Appendix to this paper, can be used to gauge the reliability of each point estimate. Second, similar and consistent information about teachers has been derived from two independent SASSs in 1987-88 and 1990-91 (see Table 7.9 of Choy, Henke, Alt, Medrich, & Bobbitt, 1993) and from two independent TFSs in 1988-89 and 1991-92 (see Table 3 of Bobbitt, Leich, Whitener, & Lynch, 1994)--thereby demonstrating reasonable stability over two different time periods with different national-probability samples of teachers.

While the analyses of teacher phenomena based on large national-probability samples have many advantages, data bases such as SASS and TFS also have limitations. First, the national numbers of teachers and percentages reported are subject to sampling error and are vulnerable to measurement and recording error. Since sampling error is a function of sample size, both of these statistics are reported here. Second, SASS and TFS data provide a cross-

sectional snapshot of changes in teacher variables from one year to the next, as contrasted with longer-term longitudinal data which make possible the use of techniques such as survival analysis. Third, teacher questionnaire responses are based on self reports which may be subject to recall error, biases, and selective non-response. Fourth, national data do not necessarily capture significant local variations and, therefore, may provide little practical guidance for policy and administrative decision making at the school, district, or state levels. On the other hand, national data capture large scale relationships and trends that can be used at the local level to conceptualize problems and potential solutions, and as a framework against which to compare and assess local experience. Despite these limitations, SASS and TFS are excellent sample surveys with high response rates, and they provide the only nationally-representative data available for studying the nation's teaching force.

More detailed information about the SASS and TFS is found in overviews published by NCES (1994) and Boe and Gilford (1992, Appendix B), and in technical descriptions published by NCES (for SASS see Choy, Medrich, Henke, & Bobbitt, 1992, Appendix A, and Choy, et al., 1993, Appendix C; for TFS see Bobbitt, Faupel, & Burns, 1991, pp. 23 - 29, and Bobbitt, et al., 1994, pp. 19 - 44).

The Teacher Sample[1]

In keeping with the SASS definition, a teacher was any individual employed either full-time or part-time at a public school who reported their main assignment as teaching in any grade(s) K - 12, including itinerant teachers and long-term substitutes. Excluded from this definition of a teacher were individuals who identified their main assignment as pre-kindergarten teacher, short-term substitute, student teacher, teacher aide, or a non-teaching specialist of any kind.

All teachers were classified into two main teaching fields: special education and general education. SETs were defined as public school teachers (K - 12) whose current main teaching assignment was in any one of several teaching specializations within special education, including other special education. Given that the questionnaire included a category for "other special education," all elementary and secondary teachers with a main assignment in any area of special education should have been able to identify themselves as such, regardless of the particular certification categories or terminology used in their home state. GETs were then defined as all public school teachers (K - 12) other than SETs.

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[1]Operational definitions of teachers, the several categories of teacher turnover, and other variables analyzed in this research are available upon request from the senior author.

The sizes of the samples of SETs and GETs used in this research are presented in the tables of results included in the Appendix.

Design

The research was designed to analyze, from a national perspective, the retention and turnover of SETs and GETs at the public school district level from 1987-88 to 1988-89, and from 1990-91 to 1991-92. The study also investigated teacher retention and turnover as a function of four categories of community type in which the school districts were located (central city, suburban/large town, small town, and rural), and as a function of three categories of teaching experience (1 - 3, 4 - 10, and 11 or more years). The specific components of teacher retention and turnover at the district level are depicted in Figure 1 and defined below:

District retention. District retention was defined as SETs and GETs in one year who, in the subsequent year, both (a) continued in their respective main teaching fields (i.e., teaching field retention), and (b) remained in a school in the same district (i.e., school retention or school reassignment). Component (a), teaching field retention, was defined as SETs and GETs in one year who continued in their respective main teaching fields in the subsequent year. Component (b) was defined by two parts, as follows:

1. **School retention**. School retention was defined as SETs and GETs in one year who, in the subsequent year, both (a) continued in their respective main teaching fields, and (b) remained in the same school; and
2. **School reassignment**. School reassignment was defined as SETs and GETs in one year who, in the subsequent year, (a) continued in their respective main teaching fields, but (b) were reassigned (either voluntarily or involuntarily) to a different school in the same district.

District Attrition. District attrition was defined as SETs and GETs in one year who, in the subsequent year, either (a) transferred to the other main teaching field (i.e., teaching field transfer), (b) left their home district (i.e., district migration or exit attrition), or (c) both. The two components of district attrition were defined as follows:

1. **Teaching field transfer**. Teaching field transfer was defined as SETs in one year who transferred to general education in the subsequent year, and as GETs who similarly transferred to special education.
2. **District Migration**. District migration was defined as SETs and GETs in one year who (a) continued in their respective main teaching fields in the subsequent year, but (b) migrated

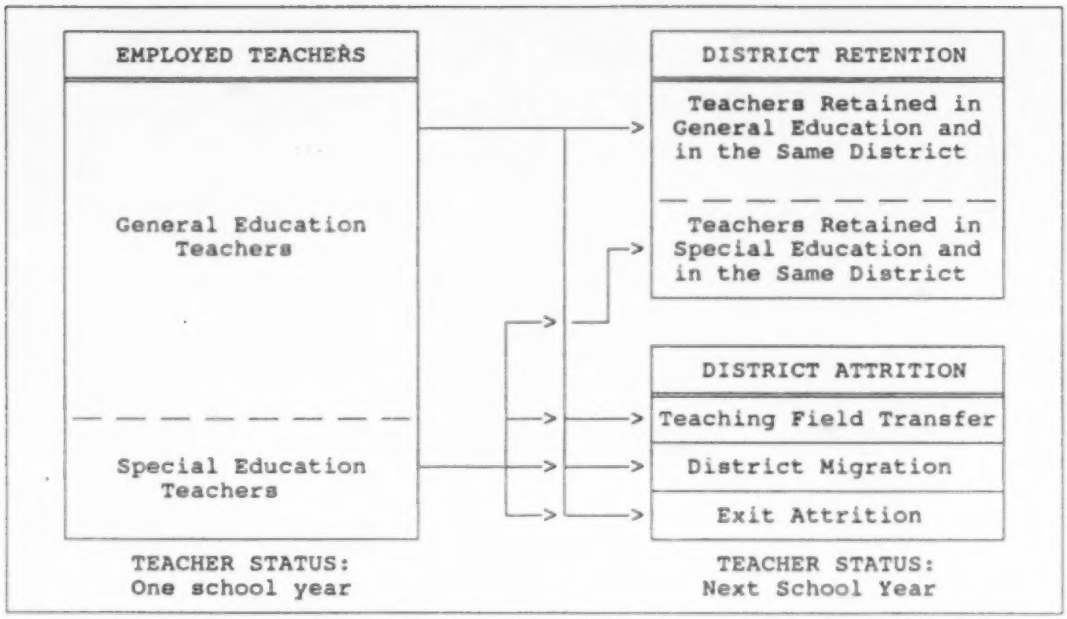
EMPLOYED TEACHERS
General Education Teachers
Special Education Teachers
TEACHER STATUS: One school year
DISTRICT RETENTION
Teachers Retained in General Education and in the Same District
Teachers Retained in Special Education and in the Same District
DISTRICT ATTRITION
Teaching Field Transfer
District Migration
Exit Attrition
TEACHER STATUS: Next School Year

Figure 1. System model depicting components of district retention and district attrition of teachers from one school year to the next. District retention includes special and general education teachers who remained in their respective main teaching field and continued employment in the same school district. District attrition includes teachers in special and general education who (a) transferred to the other main teaching field, (b) moved to a different school district, and/or (c) left public school teaching.

to a different district in the subsequent year. District migration was subdivided into teachers who (a) migrated to a different school district within the same state, and (b) migrated to a school district in a different state.

3. **Exit Attrition.** Exit attrition was defined as public school teachers (K through 12) in one year who did not continue as public school teachers in the subsequent year. Included in exit attrition were public school teachers who left to teach pre-kindergarten or to teach in a private school.

Though not depicted in Figure 1, the district retention and district attrition components of the teaching force were analyzed further as a function of community type and teaching experience as defined below:

Community type[2]: Community type was defined by four categories of location of schools in which teachers were employed, as follows:

[2]See Gruber, Rohr, and Fondelier (1994, p. 147) for technical definitions of the levels of the community type variable.

1. **Central city.** Central city (population of at least 50,000) of a standardized metropolitan area (population of at least 100,000).
2. **Suburban/large town.** An urban fringe of a standardized metropolitan area, or towns with a population greater than 24,999 not located inside a standardized metropolitan area.
3. **Small town.** A town with a population from 2,500 to 24,999 not located inside a standardized metropolitan area.
4. **Rural.** A place with fewer than 2,500, or a place designated as rural by the U.S. Bureau of Census.

Teaching experience. Teaching experience was defined by three categories of the total number of years of teaching experience in public and private schools (1 - 3, 4 - 10, and 11 or more years, with the current year counted as one year).

Analysis Procedures

Based on the sample sizes reported in Tables 2 through 6 in the Appendix, weighted national estimates of the numbers of teachers (as well as their percentages and standard errors) were computed by special procedures used by NCES for complex sample survey data (Kaufman & Huang, 1993). These national estimates were used in the statistical analyses testing for associations among variables. Because SASS data are subject to design effects due to stratification and clustering of the sample, standard errors for the national estimates were computed using the method of balanced repeated replications. Finally, chi square tests of the statistical significance of differences between special and general education teachers were performed on the nationally estimated numbers of teachers, and were adjusted appropriately for average weights and for average design effects due to the structure of the sampling procedure.

RESULTS AND DISCUSSION

To facilitate the presentation of the results of this research on the teacher retention and attrition at the school district level, this section is organized as responses to a systematic series of five research questions. Parallel analyses were made throughout for both the 1987-88 and 1990-91 SASSs in order to assess possible trends over this three-year period, and for SETs and GETs separately to permit comparisons between these two main teaching fields. The results of these analyses are presented in the tables of the Appendix to this paper along with sample sizes, standard errors, and tests of statistical significance. Changes in teacher

status from the 1990-91 to the 1991-92 school years are also depicted graphically in the sections that follow.

How many teachers leave their teaching field each year?

The percentages of SETs and GETs who remained in their respective teaching fields, who transferred to the other teaching field, and who left public school teaching following the 1990-91 school year are shown in Figure 2. As shown, 89% of SETs were retained in special education from one year to the next. Of the 11% SETs that left special education, 5% transferred to general education (i.e., teaching field transfer) while 6% left public school teaching (i.e., exit attrition). In contrast, only a very small percentage (0.4%) of GETs transferred to special education and about the same percentage of GETs as SETs (6%) left the public school teaching. Therefore, the difference between SET and GET retention (as of 1992) was due to the much higher rate of transfer between the two main teaching fields than to attrition.[3]

The actual numbers of SETs and GETs who remained in their respective teaching fields, who transferred to the other teaching field, and who left public school teaching following the 1987-88 and 1990-91 school years are shown in Table 2 of the Appendix. As seen for the 1990-91 school year, approximately 15,000 of 288,000 SETs transferred to general education, whereas approximately 9,000 of 2,254,000 GETs transferred to special education. The difference represented a net loss of 6,000 SETs to general education. When combined with the approximately 18,000 SETs who left public school teaching at the end of the 1990-91 year, the annual net loss of SETs created a large national demand for replacement teachers--a greater net loss in percentage terms (7.3%) than for general education (5.3%).

The differences in the percentages of SET retention, teaching field transfer, and exit attrition for 1987-88 and 1990-91 seen in Table 2 were not statistically significant, nor were these differences statistically significant for GETs. Thus, there appears to be considerable stability over the three-year period studied in these aspects of teacher retention and turnover.

How many teachers transfer to different public schools each year?

Of the SETs and GETs who remained in their main teaching field from 1990-91 to 1991-92, detailed information on the mobility of these groups within public education, i.e., school reassignment within home district, and migration to other districts (both in- and out-of-state)

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[3]Special and general education differed significantly in the percentages of teachers in the retention and transfer categories shown in Figure 2, $\chi^2(2, N = 4,737) = 27.36, p < .001$.

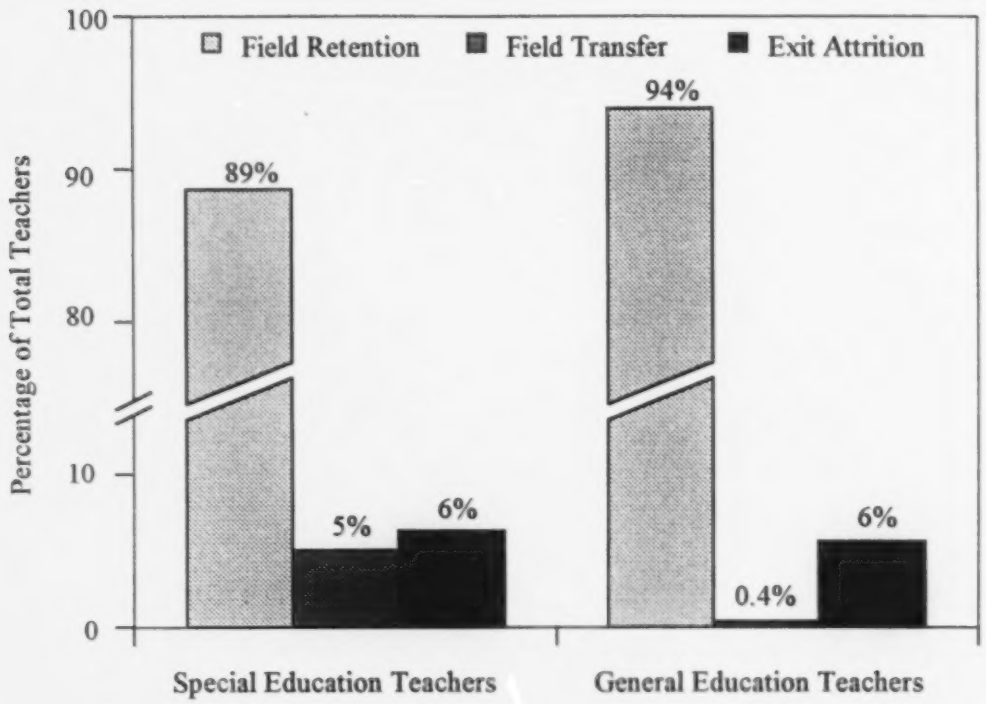

Figure 2. Teaching Field Retention: Percentages of total teachers in special education and in general education in 1990-91 who, in the following year (1991-92), remained in the same main teaching field (i.e., field retention), who transferred to the other main teaching field (i.e., field transfer), and who left public school teaching (i.e., exit attrition). Data source: The Schools and Staffing Survey (1990-91) and the Teacher Followup Survey (1992) of the National Center for Education Statistics, the U.S. Department of Education.

is presented in Figure 3. As seen, 92% of such SETs stayed in the same school following the 1990-91 school year, while most of the teachers who moved were reassigned to a different school in the same district (6%). Thus, 98% of such SETs were retained in the same school district. Of the remainder, only 1.6% of SETs migrated to other districts in the same state, while 0.5% migrated to public schools in a different state. The pattern of school retention, reassignment, and migration of SETs was quite similar to that of GETs.[4]

The actual numbers of SETs and GETs who transferred out of their schools following the 1987-88 and 1990-91 school years are shown in Table 3, along with the numbers of those

[4]Following the 1990-91 school year, special and general education did not differ significantly in the percentages of teachers in the various school transfer categories, $\chi^2(3, N = 3,141) = 7.29$, ns.

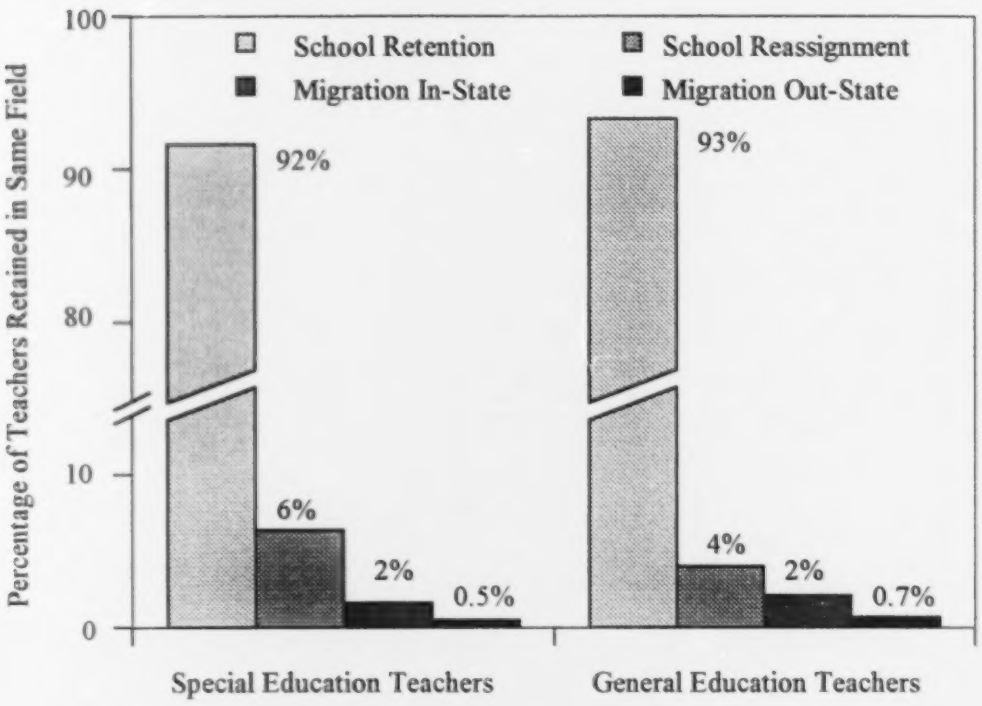

Figure 3. School Transfer: Percentages of total teachers retained in special education and in general education from 1990-91 to 1991-92 who stayed in the same school (school retention), transferred to a different school in the same district (school reassignment), transferred to a school in a different district in the same state (migration in-state), and transferred to a public school in a different state (migration out-state). Data source: The Schools and Staffing Survey (1990-91) and the Teacher Followup Survey (1992) of the National Center for Education Statistics, the U.S. Department of Education.

who remained. As seen in Table 3, SETs were considerably more mobile than GETs following the 1987-88 school year (only 87.5% school retention for SETs compared with 93.0% school retention for GETS). Three years later in 1990-91, however, the school mobility of SETs had declined and was comparable to that of GETs.[5]

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[5]Following the 1987-88 school year, special and general education differed significantly in the percentages of teachers in the various school transfer categories, $\chi^2(3, N = 3{,}068) = 23.97$, $p < .001$. However, the percentages of SETs in the various school transfer categories declined significantly from the 1987-88 to the 1990-91 school years ($\chi^2[3, N = 773] = 21.67$, $p < .001$) to the point were they were not significantly different than GETs, as shown in Table 2.

It is important to note, however, that from a district perspective, migration to out-of-district schools in the same state is a component of district attrition, even though it does not represent a loss to the home state or national teaching forces in special education. Similarly, migration to out-of-state schools is classified as attrition in state-level studies because state data bases do not record the employment status of teachers who leave the state. Therefore, reports of exit attrition percentages based on state data bases are inflated somewhat compared to exit attrition from the national perspective. One of the advantages of analyses of teacher transfer from national data bases is that cross-district and cross-state transfer of teachers can be differentiated from exit attrition from the public school teaching force.

How many teachers leave their teaching assignment in a school district each year?

The percentages of SETs and GETs who transferred out of their respective teaching fields, who transferred to a school in a different public school district, and who left public school teaching following the 1990-91 school year are shown in Figure 4, along with the sum of these percentages representing total district attrition. As shown, district attrition was higher for SETs than for GETs (13% vs. 9%),[6] with the largest part of this difference contributed by teaching field transfer (5% of SETs transferred to general education, while only 0.4% of GETs transferred to special education).

The actual numbers of SETs and GETs who left their district teaching assignments following the 1987-88 and 1990-91 school years are shown in Table 4 (i.e., district attrition), along with the numbers of those who were retained in both the same teaching field and the same district (i.e., district retention). As seen, SETs were considerably more mobile than GETs following the 1987-88 school year (only 78.2% district retention for SETs as compared to 91.2% district retention for GETS). Three years later in 1990-91, however, the district retention of SETs had improved and was more like, but still significantly lower than, that of GETs (86.8% district retention for SETs as compared to 91.4% district retention for GETs).[7]

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[6]Special and general education differed significantly in the percentages of teachers in the district retention and attrition categories shown in Table 4 for the 1990-91 school year, $\chi^2(1, N = 4,737) = 5.36$, $p < .05$.

[7]Following the 1987-88 school year, special and general education differed significantly in the percentages of teachers in the district retention and attrition categories, $\chi^2(1, N = 4,772) = 44.18$, $p < .001$. However, the percentage of SETs in the district attrition category decreased significantly from the 1987-88 to the 1990-91 school years ($\chi^2[1, N = 1,218] = 8.6$, $p < .01$) while the percentage of GETs remained stable, as shown in Table 2.

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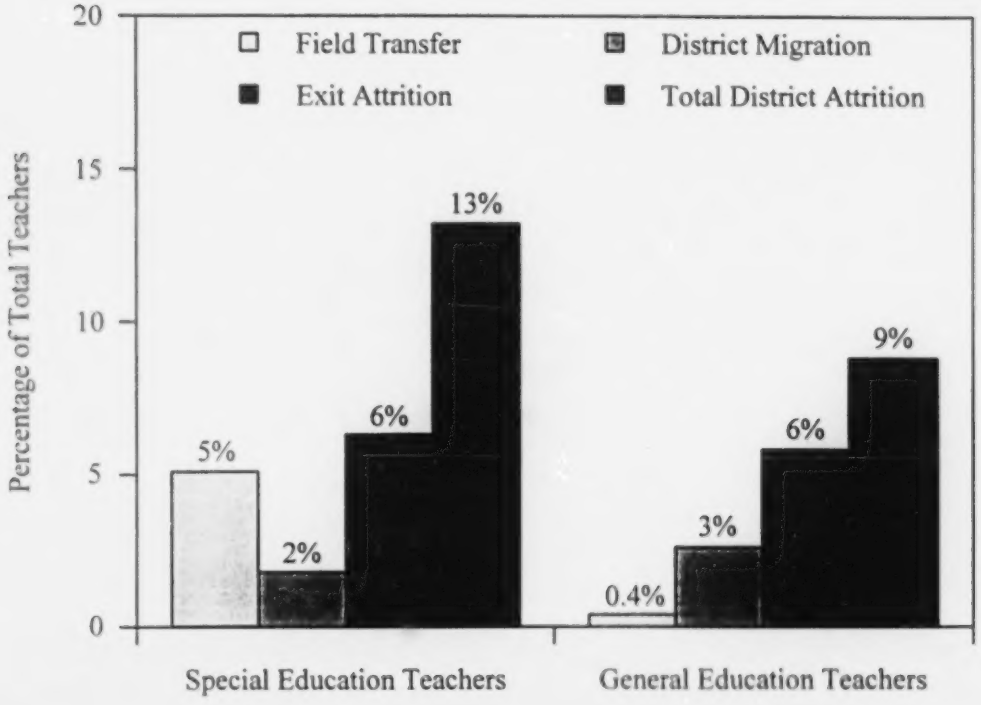

Figure 4. District Attrition: Percentages of total teachers in special education and in general education in 1990-91 who left either the main teaching field or district (or both) in which they were employed. The status of these teachers in the following year (1991-92) is shown for those who transferred to the other main teaching field (i.e., field transfer), who transferred to a different school district (i.e., district migration), and who left public school teaching (exit attrition), along with the sum of these groups (i.e., total district attrition). Data source: The Schools and Staffing Survey (199-91) and the Teacher Followup Survey (1992) of the National Center for Education Statistics, the U.S. Department of Education.

When teaching field transfer was excluded from the computation of the district attrition percentage, then 8 - 9% of all teachers (SETs and GETs combined) nationwide left the district in which they were employed following the 1987-88 and the 1990-91 school years. This percentage is virtually the same as that reported by Theobald (1990) for annual district attrition in the state of Washington during the mid-1980s. Thus, the national data reported here and the comparable statewide data reported by Theobald are consistent in this important respect.

Do teachers leave teaching assignments more frequently in urban school districts?

In view of concern over the possibility that the district attrition of SETs from large urban school districts is particularly high, district retention/attrition was examined separately for districts located in four community types: central cities, suburban areas/large towns, small towns, and rural areas. As defined above, district retention included all teachers who remained in the same main teaching field and same district from one year to the next. In contrast, district attrition includes all teachers who transferred out of their main teaching field, who transferred to a school in a different public school district, or who left public school teaching. The results of this analysis are reported in Table 5. As seen, there was no significant difference in district retention versus district attrition as a function of community type for either SETs or GETs separately following either the 1987-88 or the 1990-91 school years.[8] Therefore, the district attrition problem does not appear to be greater in urban areas than elsewhere.

Since the population size of central cities as defined here is 50,000 or larger, it might be that high attrition of SETs occurs only in very large urban areas. Therefore, an analysis of district attrition for districts located in large central cities (standardized metropolitan areas with a population of at least 400,000 or a population densities of at least 6,000 per square mile) was performed as well. The results again showed that the district retention percentages of both SETs and GETs in districts located in large central cities were not significantly different than in other types of communities.

Are experienced teachers more likely to remain in the same teaching assignment?

Since district retention/attrition was not related to community type, a parallel analysis was made of the years of teaching experience (1 - 3, 4 - 10, and 11 or more years)--one of several variables shown by Boe, Bobbitt, Cook, Whitener, and Weber (1997) to be associated with teacher turnover at the national level. The district retention percentages of SETs and GETs (i.e., teachers who were retained in the same teaching field and the same district following the 1990-91 school year) are shown in Figure 5 as a function of years of teaching experience. As expected, district retention for both SETs and GETs increased substantially with teaching experience, with maximum district retention percentages found when teaching

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[8]See the last footnote to Table 5 for the results of tests of statistical significance.

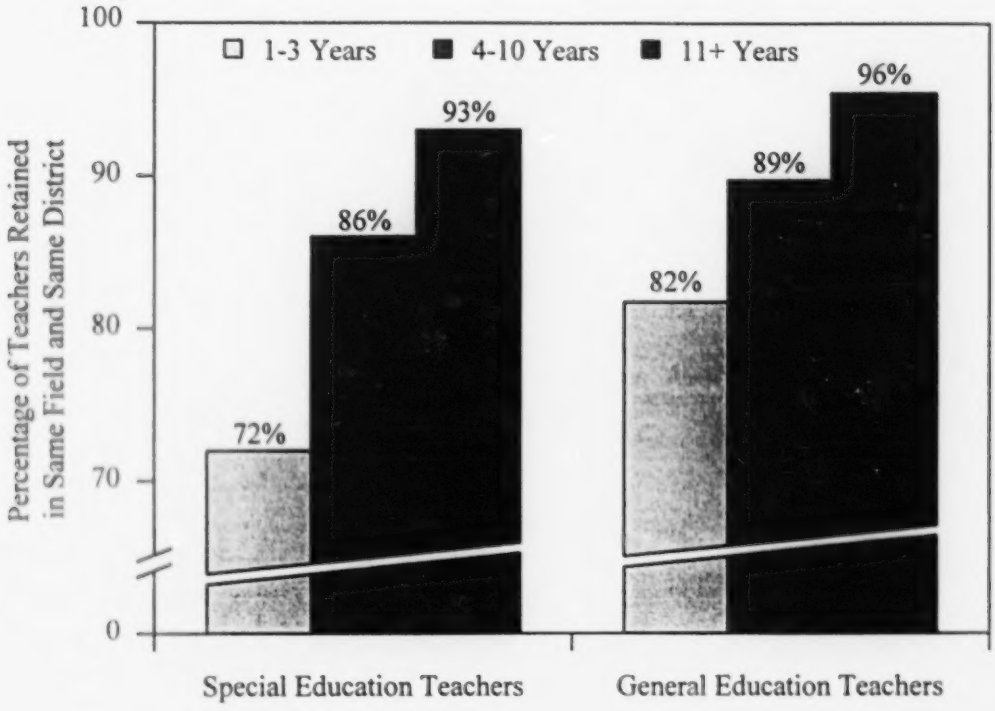

Figure 5. District Retention by Years of Teaching Experience: Percentages of teachers who remained in the same teaching field and school district from 1990-91 to 1991-92 (excluding those who retired in 1991-92) in three categories of teaching experience (i.e., 1 - 3, 4 - 10, and 11 or more years). Data source: The Schools and Staffing Survey (1990-91) and the Teacher Followup Survey (1992) of the National Center for Education Statistics, the U.S. Department of Education.

experience was 11 years or greater (93% retention for SETs and 96% for GETs).[9] Thus, districts that have a relatively high percentage of teachers with little experience should expect to have considerably greater turnover in their teaching force.

The actual numbers of SETs and GETs who remained in the same teaching field and district following the 1987-88 and 1990-91 school years are reported in Table 6 as a function of years of teaching experience. In both years, a similar relationship between district retention percentages and teaching experience was observed for both SETs and GETs (i.e., the year-to-year differences were not statistically significant). Thus, there appears to be considerable stability over the three-year period studied in this aspect of the district retention of teachers.

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[9]For SETs, years of teaching experience was associated significantly with district retention/district attrition following the 1990-91 school year, $\chi^2(2, N = 549) = 15.59, p < .001$. This association was also statistically significant for GETs, $\chi^2(2, N = 3,641) = 104.58, p < .001$..

CONCLUSION

Several important conclusions can be drawn from the national estimates of teacher retention and attrition at the district level reported here. Since the main findings of this study were replicated over a three-year period (teacher turnover following the 1987-88 and 1990-91 school years) with independent national probability samples, there is substantial evidence of stability in the phenomena investigated. These findings support the following general conclusions:

1. The retention of SETs in special education teaching assignments from 1990-91 to 1991-92 (89%) was significantly less than the retention of GETs in general education teaching assignments (94%).
2. The lower percentage of retained SETs than GETs was due to the higher transfer of SETs to general education (5%) rather than the reverse transfer of GETs to special education (0.4%), while exit attrition percentages were virtually the same for SETs and GETs (6%).
3. Of SETs and GETs remaining in the same teaching field from 1990-91 to 1991-92, approximately the same percentage transferred to different public schools, with the substantial majority staying in the same district (98% for SETs, 97% for GETs).
4. District retention of SETs (i.e., retention in special education and in the same district from 1990-91 to 1991-92) was considerably less than such retention of GETs (13% vs. 9%), a difference almost entirely due to the higher percentage of transfer of SETs to general education rather than of GETs to special education (5% vs. 0.4%).
5. The turnover of SETs at the district level (i.e., district attrition) declined from 22% following the 1987-88 school year to 13% following the 1990-91 year. In addition to this drop in overall district attrition, each of its three components (teaching field transfer, migration to out-of-district schools, and exit attrition) declined over this time period, though only the decline in school migration reached statistical significance. Though district attrition of SETs remained higher than that of GETs, the gap narrowed considerably during the three-year period under study--suggesting that the teaching force in special education is becoming more stable and more like general education in this respect.
6. District retention of SETs and GETs was not a function of the type of community in which districts are located. Thus, the magnitude of district retention problems faced by large urban districts was not found to be greater than that faced by suburban, small town, or rural districts.

7. District retention of both SETs and GETs increased with the number of years of teaching experience.

The 13% level of district attrition of SETs in the nation as a whole following the 1990-91 school year was actually higher than that found in the six urban areas reported by Pyecha and Levine, 1995, May). In these urban areas, the annual district attrition of SETs ranged from 7 - 13%, with a mean of 9%--matching the 9% level of district attrition for GETs found here for the nation as a whole. The reason for the discrepancy between the national and local district attrition data for SETs is not readily apparent because the local projects did not report information specifically on the three components of district attrition (i.e., teaching field transfer, migration to out-of-district schools, and exit attrition). Nonetheless, the specific districts selected for study in the urban projects appear to have achieved a level of stability in their teaching forces in special education that is not characteristic of urban districts generally.

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APPENDIX

Tables of Results

Table 2

Teaching Field Retention, Teaching Field Transfer, and Exit Attrition of Special and General Education Teachers: National Estimates of the Numbers of Public School Teachers by Year

Teacher Status in the Subsequent Year	Statistic[a]	Main Teaching Field*			
		Special Education		General Education	
		1987-88	1990-91	1987-88	1990-91
Retention in the Same Teaching Field	Nat. Est.	206,529	254,961	1,993,619	2,118,476
	Col %	84.3%	88.7%	93.8%	94.0%
	SE %	1.8%	1.8%	0.4%	0.4%
	Sample(n)	393	380	2,675	2,761
Transfer to Other Teaching Field	Nat. Est.	18,882	14,559	9,610	9,295
	Col %	7.7%	5.1%	0.4%	0.4%
	SE %	2.0%	1.1%	0.2%	0.1%
	Sample(n)	53	45	39	32
Exit Attrition from Public School Teaching	Nat. Est.	19,475	18,043	122,773	126,136
	Col %	8.0%	6.3%	5.8%	5.6%
	SE %	1.3%	1.3%	0.4%	0.4%
	Sample(n)	188	159	1,424	1,360
Total Teaching Force	Nat. Est.	244,887	287,563	2,126,002	2,253,907
	SE Est.	18,783	16,962	51,341	46,984
	Col %	100%	100%	100%	100%
	Sample(n)	634	584	4,138	4,153

Note. Data from the 1987-88 and 1990-91 Schools and Staffing Surveys, and the 1989 and 1992 Teacher Followup Surveys, National Center for Education Statistics, USDE.

[a]Nationally weighted estimates (Nat. Est.) of the total numbers of full-time and part-time teachers combined at the K through 12 levels based on the survey sample size (n). Col % = percentages of nationally estimated teachers of the column total of nationally estimated teachers; SE % = standard error of the column percentages. For 1987-88, 26 teachers were excluded due to item nonresponse.

*For 1987-88, the χ^2 for teacher status by teaching field (3 x 2) is 24.97 ($p < .001$). For 1990-91, the χ^2 for teacher status by teaching field is 27.36 ($p < .001$).

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Table 3

School Retention, Reassignment, and Migration of Special and General Education Teachers Who Remained in their Main Teaching Field: National Estimates of the Numbers of Public School Teachers by Year

Teacher Status in the Subsequent Year	Statistic[a]	Main Teaching Field*			
		Special Education		General Education	
		1987-88	1990-91	1987-88	1990-91
Retention in the Same School	Nat. Est.	180,777	233,438	1,853,911	1,975,686
	Col %	87.5%	91.6%	93.0%	93.3%
	SE %	1.5%	1.3%	0.4%	0.4%
	Sample(n)	215	244	1,809	1,944
Reassignment to a Different School in the Same District	Nat. Est.	10,735	16,222	85,230	85,061
	Col %	5.2%	6.4%	4.3%	4.0%
	SE %	0.8%	1.2%	0.3%	0.3%
	Sample(n)	73	82	415	411
Migration to a Different District in the Same State	Nat. Est.	10,095	4,112	40,411	43,871
	Col %	4.9%	1.6%	2.0%	2.1%
	SE %	0.8%	0.4%	0.2%	0.3%
	Sample(n)	66	41	336	319
Migration to a Different District in a Different State	Nat. Est.	4,922	_b	14,067	13,858
	Col %	2.4%	0.5%	0.7%	0.7%
	SE %	0.6%	0.2%	0.1%	0.1%
	Sample(n)	39	13	115	87
Total Teachers Continuing In Same Main Teaching Field	Nat. Est.	206,529	254,961	1,993,619	2,118,476
	SE Est.	17,135	16,151	50,131	46,007
	Col %	100%	100%	100%	100%
	Sample(n)	393	380	2,675	2,761

Note. Data from the 1987-88 and 1990-91 Schools and Staffing Surveys, and the 1989 and 1992 Teacher Followup Surveys, National Center for Education Statistics, USDE.

[a]Nationally weighted estimates (Nat. Est.) of the total numbers of full-time and part-time teachers combined at the K through 12 levels based on the survey sample size (n). Col % = percentages of nationally estimated teachers of the column total of nationally estimated teachers; SE % = standard error of the column percentages. For 1987-88, 26 teachers were excluded due to item nonresponse.

[b]Sample too small (<30) for computing a reliable estimate.

*For 1987-88, the χ^2 for teacher status by teaching field (4 x 2) is 23.97 ($p < .001$). For 1990-91, the χ^2 for teacher status by teaching field is 7.29 (ns).

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Table 4

District Retention and Attrition of Special and General Education Teachers: National Estimates of the Numbers of Public School Teachers by Year

Teacher Status in the Subsequent Year	Statistic[a]	Main Teaching Field in Prior Year: Special Education 1987-88	Special Education 1990-91	General Education 1987-88	General Education 1990-91
District Retention	Nat. Est.	191,513	249,660	1,939,141	2,060,747
	Col %	78.2%	86.8%	91.2%	91.4%
	SE %	2.0%	1.9%	0.4%	0.5%
	Sample(n)	288	326	2,224	2,355
District Attrition					
Teaching Field Transfer	Nat. Est.	18,882	14,559	9,610	9,295
	Col %	7.7%	5.1%	0.4%	0.4%
	SE %	2.0%	1.1%	0.2%	0.2%
	Sample(n)	53	45	39	32
District Migration	Nat. Est.	15,016	5,301	54,478	57,729
	Col %	6.1%	1.8%	2.6%	2.6%
	SE %	0.9%	0.4%	0.2%	0.3%
	Sample(n)	105	54	451	406
Exit Attrition	Nat. Est.	19,475	18,043	122,773	126,136
	Col %	8.0%	6.3%	5.8%	5.6%
	SE %	1.3%	1.3%	0.4%	0.4%
	Sample(n)	188	159	1,424	1,360
Total District Attrition	Nat. Est.	53,374	37,902	186,861	193,160
	Col %	21.8%	13.2%	8.8%	8.6%
	SE %	2.0%	1.9%	0.4%	0.5%
	Sample(n)	346	258	1,914	1,798
Total Teachers	Nat. Est.	244,887	287,563	2,126,002	2,253,907
	SE Est.	18,783	16,962	51,341	46,984
	Col %	100%	100%	100%	100%
	Sample(n)	634	584	4,138	4,153

Note. . Data from the 1987-88 and 1990-91 Schools and Staffing Surveys, and the 1989 and 1992 Teacher Followup Surveys, National Center for Education Statistics, USDE.

[a]Nationally weighted estimates (Nat. Est.) of the total numbers of full-time and part-time teachers combined at the K through 12 levels based on the survey sample size (n). Col % = percentages of nationally estimated teachers of the column total of nationally estimated teachers; SE % = standard error of the column percentages. For 1987-88, 26 teachers were excluded due to item nonresponse.

*For 1987-88, the χ^2 for teacher status by teaching field (2 x 2) is 44.18 ($p < .001$). For 1990-91, the χ^2 for teacher status by teaching field is 5.36 ($p < .05$).

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Table 5

District Retention of Special and General Education Teachers as a Function of School Community Type: National Estimates of the Numbers of Public School Teachers by Year

Community Type	District Retention Statistics[a] for Following Year	Main Teaching Field*			
		Special Education		General Education	
		1987-88	1990-91	1987-88	1990-91
Rural	Nat. Est.	30,355	42,422	310,377	379,776
	Dist Ret%	72.4%	85.1%	89.2%	91.4%
	SE %	6.8%	3.6%	1.2%	1.1%
	Sample(n)	52	62	370	485
Small Town	Nat. Est.	27,633	57,926	417,090	463,230
	Dist Ret%	69.8%	88.2%	91.4%	92.3%
	SE %	8.4%	2.6%	1.0%	0.9%
	Sample(n)	40	73	465	539
Suburban/Large Town	Nat. Est.	65,758	59,999	540,456	617,937
	Dist Ret%	82.8%	81.5%	92.1%	91.6%
	SE %	3.2%	6.6%	0.9%	0.9%
	Sample(n)	94	77	610	633
Central City	Nat. Est.	55,444	74,703	519,529	525,273
	Dist Ret%	84.9%	90.2%	92.1%	90.2%
	SE %	3.5%	2.9%	0.8%	0.9%
	Sample(n)	89	94	624	613
Total	Nat. Est.	179,190	235,049	1,787,452	1,986,215
	Dist Ret%	79.2%	86.4%	91.4%	91.4%
	SE %	2.1%	1.9%	0.4%	0.5%
	Sample(n)	275	306	2,069	2,270

Note. Data from the 1987-88 and 1990-91 Schools and Staffing Surveys, and the 1989 and 1992 Teacher Followup Surveys, National Center for Education Statistics, USDE.

[a]Nationally weighted estimates (Nat. Est.) of the numbers of full-time and part-time teachers combined at the K through 12 levels retained in their district and main teaching field based on the survey sample size (n). Dist Ret % = percentages of such teachers of total teachers. SE % = standard error of the district retention percentages. For 1987-88, 26 teachers were excluded due to item nonresponse. Non-response to the school questionnaire, which provided the community type variable, resulted in the exclusion of 330 teachers in 1987-88 and 180 teachers in 1990-91.

*For 1987-88, the community type by district retention/district attrition (4 x 2) χ^2 is 5.11 (ns) for special education teachers and 4.57 (ns) for general education teachers. For 1990-91, the community type by district retention/district attrition (4 x 2) χ^2 is 2.72 (ns) for special education teachers and 2.76 (ns) for general education teachers.

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Table 6

District Retention of Special and General Education Teachers as a Function of Years of Teaching Experience: National Estimates of the Numbers of Public School Teachers (Excluding Retirees) by Year

Years of Teaching Experience	District Retention Statistics[a] for Following Year	Main Teaching Field*			
		Special Education		General Education	
		1987-88	1990-91	1987-88	1990-91
1 - 3	Nat. Est.	22,457	24,736	178,992	205,300
	Dist Ret%	67.9%	72.0%	82.8%	81.9%
	SE %	5.5%	4.7%	1.4%	1.4%
	Sample(n)	66	110	529	765
4 - 10	Nat. Est.	62,593	97,725	437,250	442,433
	Dist Ret%	77.9%	86.0%	87.6%	89.1%
	SE %	3.7%	3.5%	1.2%	1.2%
	Sample(n)	118	89	547	410
11 or more	Nat. Est.	106,463	127,199	1,322,899	1,413,013
	Dist Ret%	83.1%	93.1%	95.8%	96.4%
	SE %	3.1%	1.7%	0.5%	0.4%
	Sample(n)	104	127	1,148	1,180
Total	Nat. Est.	191,513	249,660	1,939,141	2,060,747
	Dist Ret%	79.3%	87.7%	92.5%	93.1%
	SE %	2.1%	1.9%	0.4%	0.5%
	Sample(n)	288	326	2,224	2,355

Note. Data from the 1987-88 and 1990-91 Schools and Staffing Surveys, and the 1989 and 1992 Teacher Followup Surveys, National Center for Education Statistics, USDE.

[a]Nationally weighted estimates (Nat. Est.) of the numbers of full-time and part-time teachers combined at the K through 12 levels retained in their district and main teaching field based on the survey sample size (n). Dist Ret % = percentages of such teachers of total teachers. SE % = standard error of the district retention percentages. For 1987-88, 26 teachers were excluded due to item nonresponse.

*For 1987-88, the years of experience by district retention / district attrition (3 x 2) χ^2 is 6.67 ($p < .05$) for special education teachers and 96.16 ($p < .001$) for general education teachers. For 1990-91, the years of experience by district retention / district attrition (3 x 2) χ^2 is 15.59 ($p < .001$) for special education teachers and 104.58 ($p < .001$) for general education teachers.

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